

SOV/137-58-8-17868

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 238 (USSR)

AUTHORS: Volchkova, L. M. Krasil'shchikov A. I.

TITLE: Employment of Stainless Chromium Steel Kh17T as a Substitute for Cr-Ni Steel Ya1T (Primeneniye khromistoy nerzhavayushchey stali Kh17T v kachestve zamenitel'ya khromonikelevoy stali Ya1T)

PERIODICAL: Tr. Gos. n.-i. i proyekt. in-ta azotn. prom-sti, 1957, Nr 8, pp 226-238

ABSTRACT: The investigations performed dealt with mechanical properties of the parent metal and of welded specimens made of steel Kh17T, 4-5 mm thick, obtained in two smeltings and containing the following elements: 0.1-0.08% C, 0.56-0.33% Si, 0.41-0.38% Mn, 0.015-0.008% S, 0.023-0.005% P, 17.25-16.24% Cr, and 0.52-0.55% Ti. In its initial state, after hot rolling and annealing at a temperature of 780°C, the steel exhibited the following characteristics: σ_b 50.6-51.7 kg/mm², σ_s 40.0-37.8 kg/mm², δ 22.5-32.5%, ψ 55.0-71.3%. Electrodes of the types MVTU, TsL-3M, NIAT, and GIAP were employed in welding of the steel. The quality of the weld was judged in

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Employment of Stainless Chromium Steel (cont.)

accordance with the results of bend tests to which the specimens were subjected, as well as in accordance with the tendency to intercrystallite corrosion, which was determined by boiling the specimen in a standard solution. It was established that best results are obtained when thin electrodes, 2.5-3.0 mm in diameter, are employed during welding. Welding with the TsL-3M electrodes results in a tendency to intercrystallite corrosion in some instances. Favorable results were obtained during welding of steel Kh17T with the NIAT electrodes which contain titanium dioxide. Owing to the scarcity of Fe-Mo, a compound employed in the coating of NIAT electrodes, the possibility of employing V was investigated; the element was introduced into the coating as well as into the core of an electrode which was composed of steel OKh18N9. The coating had the following composition: 35% dolomite, 25% titanium dioxide, 15% fluorspar, 5% Fe-Si, 20% Fe-V, and 14-16% water glass. In welds performed with GIAP electrodes, the tensile strength of the welded specimens amounted to 95% of the tensile strength of the parent metal. The results of corrosion tests, performed on welded specimens in HNO₃ and in ammonium nitrate, indicate that steel Kh17T is suitable for production of apparatus designed for manufacture of dilute HNO₃, as well as for operation in contact with acidic solutions of ammonium nitrate at a temperature of 80°C. An apparatus functioning as a collector of nitrose gases was tested under

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Employment of Stainless Chromium Steel (cont.)

actual operational conditions and proved to be just as stable as an analogous unit manufactured from steel YalT. The basic requirement in the production of high-quality steel Kh17T is a fine-grain structure a condition which was achieved by observance of proper temperatures during rolling. The Kh17T steel may be employed in the manufacture of various equipments used in food industry. The GIAP electrode may also be recommended for welding of steel YalT.

M. Sh.

1. Stainless steel--Physical properties
2. Stainless steel--Production
3. Stainless steel--Welding
4. Stainless steel--Test results
5. Stainless steel--Applications

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5 (4)

AUTHORS:

Krasil'shchikov, A. I., Volchkova, ~~_____~~ SOV/20-125-6-31/61
L. M. Burtseva, I. K., Plyasunov, V. D.

TITLE:

On the Mechanism of the Interocrystalline Corrosion of
Stainless Steel in Nitric Acid (O mekhanizme mezhkristallitnoy
korrozii nerzhaveyushchey stali v azotnoy kislote)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 6,
pp 1285-1287 (USSR)

ABSTRACT:

The authors prove that a current of differential depolarization flows between two electrodes made from stainless steel (Fig 1). The electrode located in the more diluted acid is dissolved anodically. Similar currents may occur in microcracks, in which the concentration of the nitric acid decreases due to corrosion reaction, whereas the outer surface acts as a cathode with acid concentration remaining constant. Corrosion is considerably increased only by the chromium oxidized to an anion by nitric acid, but it is just chromium that is a component of stainless steels. The character of the corrosion depends on the ratio between the current i_1 of differential depolarization and the general current i_2 of the corroding

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On the Mechanism of the Intercrystalline
Corrosion of Stainless Steel in Nitric Acid

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dissolution. At $i_1 > i_2$ corrosion is intercrystalline, at $i_2 > i_1$ uniform corrosion takes place. There are 2 figures and 4 references, 2 of which are Soviet.

PRESENTED: January 22, 1959, by A. M. Frumkin, Academician

SUBMITTED: January 22, 1959

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VOLCHKOVA, I.M.; PLYASUNOV, V.D.; KRASIL'SHCHIKOV, A.I. (Moscow)

Effect of mechanical deformations on the electrode potential of
copper. Zhur. fiz. khim. 34 no.3:543-549 Mr '60. (MIRA 13:11)
(Copper) (Deformations (Mechanics)) (Electromotive force)

PLATE 1 BOOK EXPOSITION

607/2555

Металлосталлинг коррозия і коррозия маллю в металлах (Inhibitory Stalling and Stress Corrosion of Metals) Moscow, Nauka, 1980. 358 p. 3,000 copies printed.

Ed.: I.A. Lavrin, Candidate of Technical Sciences; Ed. of Publishing House: Literature on Mechanical Engineering; Tech. Ed.: V.D. El'tichin, Managing Ed. for Engineers; Editorial Board: I.A. Lavrin, Candidate of Technical Sciences (Chairman), V.P. Belyukov, Candidate of Technical Sciences, V.M. Kabanov, Candidate of Technical Sciences, and A.V. Tikhonov, Candidate of Technical Sciences.

PURPOSE: This collection of articles is intended for technical personnel concerned with problems of corrosion of metals.

CONTENTS: The collection contains discussions of interpenetrating corrosion of stainless steels and stress corrosion of carbon steels, low-alloy steels, and light-weight and nonferrous alloys. The tendency of steel to undergo corrosion in various environments is discussed, as is the effect of various corrosion inhibitors. The nature of corrosion and corrosion testing is analyzed. Biographical notes and the majority of which are in Soviet.

OF AMERICAN AND FOREIGN ATTORNEYS

Author: W. H. McCarty, Department of Chemical Sciences, Professor, and V. M. McCarty, Graduate of Chemical Sciences, Effect of Stress on the Corrosion and Potentials of the Magnesium-Magnesium Alloy System

SHENON, M.A., Candidate of Technical Sciences. The Nature of Corrosion
Cracking of Magnesium Alloys and Protective Measures

Abstracts of Chemical Sciences. Effect of Certain Factors on the Corrosion of Magnesium Alloys Toward Corrosion Cracking

Volokhina, L.K., T.D. Pyramunov, and A.I. Ermolinskii. Archiv für Elektrotechnik, 1964, No. 1, p. 105. (Russian)

Abstract. A.Y. Candidate of Technical Sciences. The Tension of Atoms to Class Determining the Tension of Atoms on the Electrode Potential of Copper.

Black, J. H., Candidate of Chemical Sciences. Corrosion Cracking of Glasses in Various Climatic Zones of the USSR

Grigoriy Borisovich Inshteyn, *Associate Engineer*, as *Senior* (Corrosion Department) of the Institute of Physical Chemistry (AN USSR) and *Associate Professor* (Basic Design and Planning Scientific Research Institute for the Design of Chemical Plants) conducted joint research on this subject. To Olegovich candidates of Technical Sciences and Yu. A. Solov'yov, Doctor of Scientific Techn., participated in the work on behalf of the latter.

Grigoriy A. Te., Candidate of Technical Sciences, 24 Yu. A. Shatrova, Doctor of Sciences, Worker. On the Problem of Short-Time Testing of Materials Resistance to Corrosion Cracking

Kolesnikov, S. I., and N. P. Reilly, Engineers. Detection of Interpenetration Corrosion in Aluminum Alloys with the Dye Penetrant Film Detection Method.

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VOLCHKOVA, N.S., inzh.

We need new instruments for controlling protective coatings. Stroi.
truboprov. 5 no.12;16 D '60. (MIRA 13:12)
(Pipelines) (Protective coatings)

KOZLOVSKAYA, A.A., inzh.; VOLCHKOVA, N.S., inzh.

Rubrax insulation for preprotecting pipelines from underground
corrosion (Ozek-Suat - Groznyy oil pipeline). Stroi. truboprov.
6 no. 2:14-15 F '61. (MIRA 14:5)
(Protective coatings) (Pipelines--Corrosion)

VOLCHKOVA, R.I.

Study of the blood in sanitary evaluation of the toxicological characteristics of substances used in the production of synthetic rubber. Trudy Vor. med. inst., 47:53-56 '62 (MIRA 16:12)

1. Kafedra gigiyeny Voronezhskogo meditsinskogo instituta.

ROKHLIN, L.L.; SVIDERSKAYA, Z.A.; VOLCHKOVA, R.P.

Effect of cold working on the mechanical properties of
magnesium alloys with additions of neodymium. Trudy Inst.
met. no.12:161-165 '63. (MIRA 16:6)

(Magnesium alloys—Cold working)

VOLCHKOVA, V.V.

Calculation of the maximum permissible water depth of canals in
selecting the parameters of an automatic regulator. Izv.AN Kir.
SSR.Ser.est.1 tekhnauk 3 no.6:95-99 '61. (MIRA 15:11)
(Hydraulic servomechanisms) (Irrigation canals and flumes)

VOLCHOK, A.K.; KASAVINA, B.S.; PANOVA, M.I.; TORBENKO, V.P.

Biochemical changes in the organism following the failure of fractures to heal. Ortop.travm. i protez. 20 no.8:45-48 Ag '59. (MIRA 12:11)

1. Iz Tsentral'nogo instituta travmatologii i ortopedii (dir. - deystvitel'nyy chlen AMN SSSR prof. N.N. Priorov).
(FRACTURES, UNUNITED, chemistry)

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S/181/61/003/004/024/030
B102/B209

9.4300 (1150, 1151, 1143)

AUTHOR: Volchok, B. A.

TITLE: Derivation of some relations in the theory of zone leveling

PERIODICAL: Fizika tverdogo tela, v. 3, no. 4, 1961, 1232-1237

TEXT: The author presents several formulas for calculating the impurity concentration in samples. The method of zone leveling is frequently used to obtain highly homogeneous substances. In this connection it is important to know the impurity concentration along the sample after any number of passages of the liquid zone, or to be able to calculate how many passages are required to attain a certain impurity concentration. These formulas, which are particularly suited for practical use, are derived according to the scheme shown in a figure. $y_{2n}(1)$ is the concentration at the point 1 after $2n$ passages of the zone, $y_{2n+1}(1)$ the concentration after $2n+1$ passages, and $x_{2n+1}(1)$ the concentration in the liquid zone. $y_{2n+1}(1) = kx_{2n+1}(1)$, where k denotes the segregation coefficient, and 1 the coordinate value. The

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Derivation of ...

problem is considered in steady-state approximation, i.e., on the assumption that the leveling rate of the concentration within the zone is great as compared to the velocity of the zone. In general, k is a function of concentration; in this case, however, it is assumed to be constant. The width b of the zone depends on the position of the zone relative to the ends of the sample, but is also assumed to be constant, as well as the initial concentration Y_0 along the sample. For the determination of the concentration after any number of passages, the system of differential equations

$$\left. \begin{aligned} \frac{dy_{2n+1}(x)}{dx} + y_{2n+1}(x) &= y_{2n}(x+k), \\ \frac{dy_{2n+2}(x)}{dx} - y_{2n+2}(x) &= -y_{2n+1}(x-k), \text{ for } x = \frac{k}{b}l. \end{aligned} \right\} \quad (1) \quad (1)$$

has to be solved. The boundary conditions read:

$$\begin{aligned} y_{2n+1}(0) &= y_{2n}(k) \text{ for } n \geq 1, \\ y_{2n+2}(x_0) &= y_{2n+1}(x_0 - k), \\ y_1(0) &= kY_0. \end{aligned} \quad (2)$$

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A solution of (1) for the concentrations after the first two passages may be written down immediately: $y_1(x) = Y_0 [1 - (1 - k)e^{-x}]$; $y_2(x) = Y_0 [1 - (1 - k)e^{-x_0} + k \operatorname{ch}(x - x_0)]$. The derivation of a general solution is presented in an appendix. The concentrations after $2n$ and $2n+1$ passages are given by the expressions

$$y_{2n}(x) = \frac{Y_0}{1 + x_0 - k} \left[x_0 + 4 \frac{1-k}{x_0 - k} \times \right. \\ \left. \times \sum_{i=0}^{\infty} \frac{y_i \cos \frac{x_0 - x}{x_0 - k} y_i}{\sin y_i \left[1 + \frac{y_i^2}{(x_0 - k)(x_0 - k + 1)} \right] \left[1 + \frac{y_i^2}{(x_0 - k)^2} \right]^n} \right], \quad (5a),$$

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$$y_{2n+1}(x) = \frac{Y_0}{1 + x_0 - k} \left[x_0 + 4 \frac{1-k}{x_0 - k} \times \right. \\ \left. \times \sum_{i=0}^{\infty} \frac{y_i \left[\cos \frac{x_0 - x - k}{x_0 - k} y_i - \frac{y_i}{x_0 - k} \sin \frac{x_0 - x - k}{x_0 - k} y_i \right]}{\sin y_i \left[1 + \frac{y_i^2}{(x_0 - k)(x_0 - k + 1)} \right] \left[1 + \frac{y_i^2}{(x_0 - k)^2} \right]^{n+1}} \right], \quad (5b),$$

$$\times \sum_{i=0}^{\infty} \frac{y_i \left[\cos \frac{x_0 - x - k}{x_0 - k} y_i - \frac{y_i}{x_0 - k} \sin \frac{x_0 - x - k}{x_0 - k} y_i \right]}{\sin y_i \left[1 + \frac{y_i^2}{(x_0 - k)(x_0 - k + 1)} \right] \left[1 + \frac{y_i^2}{(x_0 - k)^2} \right]^{n+1}}, \quad (56)$$

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where $x_0 = kl_0/b$; summation goes over all positive roots of $\tan y_1 = -ay_1$,
where $a = 1/(x_0 - k)$ and $(x_0 - k) \sqrt{1 - z_1^2} = iy_1$. Eqs. (5) are an exact
solution of (1) with the boundary conditions (2). The parameters are
defined within the ranges $3 \leq l_0/b \leq 10$ and $0.1 \leq k \leq 0.9$. If $n \geq 3$ and only the
first terms of the sum are taken, the equations

$$\times \left[x_0 + 4 \frac{1-k}{x_0-k} \frac{y_0 \cos \frac{x_0-x}{x_0-k} y_0}{\sin y_0 \left[1 + \frac{y_0^2}{(x_0-k)(x_0-k-1)} \right] \left[1 + \frac{y_0^2}{(x_0-k)^2} \right]^n} \right], \quad (6a) \text{ and}$$

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$$\times \left[x_0 + 4 \frac{1-k}{x_0-k} \frac{y_0 \left[\cos \frac{x_0-x-k}{x_0-k} y_0 - \frac{y_0}{x_0-k} \sin \frac{x_0-x-k}{x_0-k} y_0 \right]}{\sin y_0 \left[1 + \frac{y_0^2}{(x_0-k)(x_0-k+1)} \right]} \right]^{n+1} \cdot \quad (65)$$

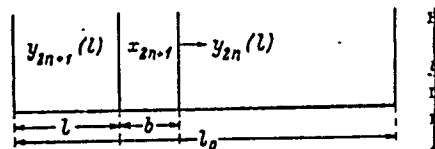
$$\quad \quad \quad (6b)$$

are obtained, allowing to calculate the impurity distribution after any number of passages with sufficient accuracy. The author thanks Professor L. A. Sliv, V. I. Ivanov-Omskiy, and V. Ya. Frenkel' for their interest and discussions. There are 1 figure and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc. The reference to English-language publication reads as follows: W. Pfann, Zone melting, N. Y. 1958.

ASSOCIATION: Fiziko-tehnicheskii institut AN SSSR imeni akad. A. F. Ioffe Leningrad (Institute of Physics and Technology AS USSR imeni Academician A. F. Ioffe, Leningrad)

SUBMITTED: September 20, 1960

Figure



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USSR/Microbiology - General Microbiology.

F-1

Abs Jour : Ref Zhur - Biol., No 10, 1958, 43173

Author : Ivanov, V.I., Volchok, A.K., Lobanova, A.V.

Inst : -

Title : Synthesis and Some Properties of Polysaccharides of B. Oederntiens and B. Perfringens.

Orig Pub : Biokhimiya, 1956, 21, No 6, 760-763.

Abstract : When grown on media containing glucose and maltose, Bacillus oederntiens synthesizes an intracellular polysaccharide composed of low- and high-molecular dextrans. B. perfringens forms a similar polysaccharide only on media with dextrans, though not always. A synthesis of starch-like polysaccharides by phosphorylases from extracts of B. oederntiens and B. perfringens is activated by starch and maltose. The synthesis is slowest of all when the initial culture is cultivated on media containing glucose. When cultivated on a medium containing maltose,

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Abs Jour : Ref Zhur - Biol., No 10, 1958, 43173

the latter having been added to a bacterial extracts, it activates the synthesis of the polysaccharide in preference to that of starch. In other cases starch activity is superior to or equal to maltose activity.

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VOLCHOK, A.K.; IVANOV, V.I.; LOBANOVA, A.V.

Properties of phosphorylase and amylase in *B. perfringens*.
Biokhimiia 20 no.5:522-526 S-O '55. (MLRA 9:3)

1. Biokhimicheskaya laboratoriya Kontrol'nogo instituta syvorotok
i vaktsin Ministerstva zdravookhraneniya SSSR, Moskva.

(PHOSPHORYLASES, metabolism,

Clostridium perfringens cultured in polysaccharide
containing media)

(CARBOHYDRASES,

phosphorylases in *Clostridium perfringens* cultured in
polysaccharide containing media)

(CULTURE MEDIA,

polysaccharides for *Clostridium perfringens*, eff. on
amylase & phosphorylase metab.)

(POLYSACCHARIDES,

culture medium for *Clostridium perfringens*, eff. on
amylase & phosphorylase metab.)

Volchok, A. P.

The synthesis and the properties of the polyacetalides of

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S/170/61/004/008/004/016

B116/B212

18.3100

AUTHORS: Volchok, B. A., Frenkel', V. Ya.

TITLE: Elements of thermal calculation of the zone-melting process

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 4, no. 8, 1961, 43-48

TEXT: The present paper deals with the dependence of the liquid zone width on the position of the heater relative to the sample. Formulas are derived, which connect the zone width with the sample parameters and the dimensions of the device for the position of the heater in the center and at the edge of the sample. The final formula expressing the zone width as a function of the heater position (quadratic parabola) may serve as a basis for programing the power applied to the heater. With the help of such programing the width of the liquid zone may depend in a certain way on the heater position (and for the special case it may remain constant). Fig. 1 shows the behavior of the liquid zone while the heater is moved along the sample (the case $A_0 < A$ is investigated). A_0 denotes the width of the melting zone, and A the length of the heater. The calorific power applied to the sample is indicated by Q . It is constant along A , and $Q = 0$ outside

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Elements of thermal calculation of ...

the heater. The sample has a cross section S and a length $2l$. Taking into account the various heat transfer coefficients of the liquid and solid phases of the sample, the width of the liquid zone is determined by the joint solution of 5 (cases b, c, and d) or 3 (cases a, and e) differential equations. For the case shown in Fig. 1 b) the equations read as follows:

$$\text{I. } 0 \leq x \leq a \quad \lambda_1 S \frac{d^2 T_1}{dx^2} = \alpha_{\text{сфс}} T_1, \quad (1)$$

$$\text{II. } a \leq x \leq x_1 \quad \lambda_2 S \frac{d^2 T_2}{dx^2} = \alpha_{\text{сфс}} T_2, \quad (2)$$

$$\text{III. } x_1 \leq x \leq x_2 \quad \lambda_3 S \frac{d^2 T_3}{dx^2} = \alpha_{\text{сфс}} T_3, \quad (3)$$

$$\text{IV. } x_2 \leq x \leq b \quad \lambda_4 S \frac{d^2 T_4}{dx^2} = \alpha_{\text{сфс}} T_4, \quad (4)$$

$$\text{V. } b \leq x \leq 2l \quad \lambda_5 S \frac{d^2 T_5}{dx^2} = \alpha_{\text{сфс}} T_5. \quad (5)$$

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T_1 ($i = 1, \dots, 5$) denote the temperatures; x is counted from the left edge of the sample; λ_T and λ_L denote the heat transfer coefficients of the solid and the liquid phase, respectively, of the sample; $\alpha_{\phi\phi}$, the effective heat transfer coefficient of the system sample - ambient, is determined from the test data. $T_{m\tau}$ denotes the melting temperature of the sample of the material. The coordinates x_1 and x_2 are determined from two transcendental equations which read for the case in question (Fig. 1 b):

$$\begin{aligned} & \left(\frac{Q}{\alpha_{\phi\phi}} - T_{m\tau} \right) \text{th} k_{\kappa} \frac{A_0}{2} = \\ & = \left[\frac{Q}{\alpha_{\phi\phi}} \frac{\text{sh} k_{\tau} a}{\text{ch} k_{\tau} x_1} - \left(\frac{Q}{\alpha_{\phi\phi}} - T_{m\tau} \right) \text{th} k_{\tau} x_1 \right] \sqrt{\frac{\lambda_{\tau}}{\lambda_{\kappa}}} \end{aligned} \quad (6)$$

$$\begin{aligned} & \left(\frac{Q}{\alpha_{\phi\phi}} - T_{m\tau} \right) \text{th} k_{\kappa} \frac{A_0}{2} = \\ & = \left[\frac{Q}{\alpha_{\phi\phi}} \frac{\text{sh} k_{\tau} (2l - b)}{\text{ch} k_{\tau} x_1} - \left(\frac{Q}{\alpha_{\phi\phi}} - T_{m\tau} \right) \text{th} k_{\tau} (2l - x_2) \right] \sqrt{\frac{\lambda_{\tau}}{\lambda_{\kappa}}} \end{aligned} \quad (7)$$

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where $k_T = \sqrt{\alpha_{\phi\phi}/\lambda_T S}$ and $k_X = \sqrt{\alpha_{\phi\phi}/\lambda_X S}$. A_0 as a function of the heater position can be found for this and also other cases (Fig. 1 c) and d) by standard graphical methods. To estimate the boundaries in which A_0 can change, it will be sufficient to investigate two cases (heater in the center of the sample and at the edge). This is done also here. In the first case, the width of the liquid zone is A_{0c} , and in the second case it is A_{0k} (Fig. 1 a) and e), respectively). Based on tests it is shown that for a given material (i.e., for a given λ and $T_{n\lambda}$) it is possible to control the width A_0 of the liquid zone by choosing $\alpha_{\phi\phi}$, A , S (parameters of the device), and Q . If it is necessary to keep A_0 constant (independently of the heater position with respect to the sample), this can be attained by programming Q . An accurate solution of this problem is obtained by a successive solution of Eqs. (6) and (7) for the cases a) till e) in Fig. 1, where $A_0 > A$ if the heater is located at an arbitrary point of the sample. Due to the symmetry of the problem, it is possible to approximate the dependence of A_0 on the heater position with a quadratic parabola:

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$$A_0 = A_{oc} + (A_{ok} - A_{oc}) \frac{a^2}{(l - A_{ok}/2)^2}, \quad (14),$$

where a is counted from the center of the sample (and changes within the limits $0 \leq a \leq l - A_{ok}/2$); A_{oc} and A_{ok} are functions of Q . Expression (14) determines Q as a function of a , where $A = \text{const}$. There are 2 figures and 1 Soviet-bloc reference.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR, g. Leningrad (Institute of Physics and Technology AS USSR, Leningrad)

SUBMITTED: December 8, 1960

Card 5/6

VOICHOK, B. A.

Evaluation of the utility of the Pfann distribution in the zone
purification process. Fiz. tver. tela 4 no.4:1071-1073 Ap '62.
(MIRA 15:10)

1. Fiziko-tehnicheskii institut imeni A. F. Ioffe AN SSSR,
Leningrad.

(Semiconductors)

24(5)

AUTHORS:

Sliv, L. A., Volchok, B. A.

SOV/56-36-2-29/53

TITLE:

Investigation of the Parameters of the Average Nuclear Potential
(Issledovaniye parametrov srednego yadernogo potentsiala)

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959,
Vol 36, Nr 2, pp 539-553 (USSR)

ABSTRACT:

The present paper intends to calculate the parameters of the average nuclear potential of the form

$V(r) = V_0 / (1 + e^{\alpha(r-r_0)})$ (Ref 3), where $r_0 = R_0 A^{1/3} \cdot 10^{-13}$ cm is the nuclear radius, α - a parameter, V_0 - the potential depth in the nuclear center. To this potential the spin-orbit part

$-\lambda \left(\frac{\hbar}{2Mc} \right)^2 \frac{1}{r} \frac{\partial V(r)}{\partial r}$ (1s) is to be added.

Calculations are based on data pertaining to the levels of nuclei with a number of nucleons equal to that of a doubly closed shell plus or minus one nucleon. The ground- and low excited levels of 16 nuclei were calculated. The numerical results are shown in a clear way by 5 tables. It was found

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Investigation of the Parameters of the Average
Nuclear Potential

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that the potential parameters are the same for all nuclei lying on the nuclear stability curve. Semiempirical formulae have been derived for the depth of the potential for given N- and Z- values:

$$V_0^n = V_0^{\text{stab}} + (a/A)(Z - Z_{\text{st}});$$

$$V_0 = V_0^{\text{stab}} + (a/A)(N - N_{\text{st}}) + V_c.$$

The potential depth for all nuclei is on the stability curve and amounts to ~ 44 Mev.

Investigation of the properties of nuclei with a proton shell $Z = 40$ shows that the excited levels of such nuclei are not of a one-particle-like character, which indicates a lower degree of hardness of the "40"-shell (compared to the shells 20, 50, etc.). The wave function of the closing odd nucleon is near the corresponding oscillator function only for the first quantum states (e.g. $1p$, $1i$). Figures 3-5 show diagrams with normalized neutron functions, which, for comparison, contain also the respective normalized oscillator function. For

$1p_{1/2}(O^{15})$ and $1i_{11/2}(Pb^{209})$ the curves nearly coincide.

Card 2/3

Investigation of the Parameters of the Average
Nuclear Potential

SOV/56-36-2-29/63

The authors finally thank S. B. Mostinskiy, who supervised all calculations, and also I. S. Berezin and N. P. Trifonov, G. V. Podgayskaya, G. G. Vasil'yeva and Ye. F. Kobzeva for assisting in calculations, which were partly carried out by means of the electronic computer "Strcla". There are 5 figures, 5 tables, and 10 references, 3 of which are Soviet.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskii institut Akademii nauk SSSR
(Leningrad Physico-Technical Institute of the Academy of Sciences, USSR)

SUBMITTED: July 29, 1958

Card 3/3

VOLCHOK, B.A.

Optimum conditions for the zone melting process. *Viz.tvar.tela* 3
1961. (MIRA 14:10)

1. Fiziko-tekhnicheskiy institut im. A.F.Ioffe, AN SSSR, Leningrad.
(Alloys--Metallurgy)

VOLCHOK, B.A.; FRENKEL', V.Ya.

Some characteristics of zone melting. Fiz.tver.tela 3 no.7:2010-
2013 J1 '61. (MIRA 14:8)

1. Fiziko-tekhnicheskiy institut imeni A.F.Ioffe AN SSSR,
Leningrad.

(Crystals--Thermal properties) (Diffusion)

24.7300

36895
S/181/62/004/004/042/042
B102/B104

AUTHOR: Volchok, B. A.

TITLE: Estimate of the applicability of the Pfann distribution in zone purification

PERIODICAL: Fizika tverdogo tela, v. 4, no. 4, 1962, 1071-1073

TEXT: The applicability of the limiting distribution proposed by Pfann (Zone Melting, N. Y., 1958) is discussed and two problems are solved: (1) The effect of the dependence of the width of the liquid zone on its position upon the distribution, and (2) the contribution of the normal crystallization to the Pfann limiting distribution. Fundamental equations, boundary conditions, and definitions are given in Ref. 4 (Volchok, Frenkel', FTT, 3, 2010, 1961). In the first case, the solution is obtained as $y(l) = A [1 + \alpha l/b_0]^{k/\alpha - 1}$, where l_0 is the root of

$$\frac{l_0}{1 - \frac{\alpha}{2}} = \left(\frac{1 + \frac{\alpha}{2}}{1 - \frac{\alpha}{2}} \right)^{\frac{2l_0}{\alpha}} - 1. \quad (6)$$

Card 1/2

Estimate of the applicability of the ...

S/181/62/004/004/042/042

B102/B104

and $b(1) = b_0 + \alpha l$. An approximate solution of the second problem is

$$y(x) = (1-k)A \times \left\{ \frac{\exp((t-1)(x-kn))}{kt-1} + \left(\frac{\exp((t_0-1)(x-kn))}{kt_0-1} - t \cdot \kappa \cdot c \right) \right\} \quad (16),$$

where t is the real root of $t_g = \exp(kt_g - k)$. Apart from normalization, the first term corresponds to the Pfann distribution.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR
Leningrad (Physicotechnical Institute imeni A. F. Ioffe AS
USSR, Leningrad)

SUBMITTED: January 16, 1962

Card 2/2

VOLCHOK, B.A. (Leningrad)

Mathematical model of the purification from impurities in an
apparatus of continuous zonal recrystallization. Izv. AN SSSR.
Otd. tekhn. nauk. Met. i gor. delo no.3:111-115 My-Je '63.
(MIRA 16:7)
(Zone melting--Mathematical models)

VOLCHOK, B. Ya.

"Plemya i kasta (ra primere narodov Tsentral'noy Indii)."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences,
Moscow, 3-10 Aug 64.

VOLCHOK, B.I.[deceased]; GENDEL'MAN, Ye.A.

New design of two-circuit wooden power line towers for 35 kv.
overhead transmission lines. Energ. i elektrotekh. prom. no.2:
44-48 Ap-Je '63. (MIRA 16:7)

1. Ukrainskoye otdeleniye Vsesoyuznogo gosudarstvennogo
proyektnogo instituta i Nauchno-issledovatel'skiy institut
"Energosel'proyekt".
(Electric lines—Poles and towers)

SHUL'TE, Yu.A.; GLADKIY, S.I.; BARYSHEVSKIY, L.M.; BERKUN, M.N.;
LUNEV, V.V.; SAPELKIN, A.I.; VOLCHOK, I.P.; SHEVCHUK, P.T.;
KURBATOV, M.I.

Heat treatment of medium-carbon steel castings. Lit. proizv.
no.4:9-10 Ap '64. (MIRA 18:7)

GLADKIY, S.I.; BERKUN, M.N.; BARYSHEVSKIY, L.M.; VOLCHOK, I.P.

Samples for the control of mechanical properties of steel castings.
Lit. proizv. no.11:40 N '64. (MIRA 18:8)

SHUL'TE, Yu.A.; LUNEV, V.V.; BERRUN, M.N.; VOLCHOK, I.P.; GLADKIY, S.I.

Effect of structural dispersity on the properties of medium
carbon cast steel. Fiz.-khim. mekh. mat. 1 no.2:218-220 '65.
(MIRA 18:6)

1. Mashinostroitel'nyy institut im. V.Ya. Chubarya, Zaporozh'ye.

VOLCHOK, I.P., inzh.; SHUL'TE, Yu.A., doktor tekhn. nauk

Complete deoxidation of medium-carbon steel. Lit. proizv. no.9:26-28
S '65. (MIRA 18:10)

VOLCHOK, I.P.; KOVALEV, A.G.

Smelting chromium-nickel steel in induction furnaces with
an acid lining. Metallurg 10 no.12:20 D '65.

(MIRA 18:12)

SHUL'TE, Yu.A.; VOLCHOK, I.P.; DUNEV, V.V.; RUDENKO, V.P.

Effect of complex deoxidation on the physicomachanical properties
of medium-carbon steel. Fiz.-khim. mekh. mat. 1 no.5:563-566 '65.
(MIRA 19:1)

1. Mashinostroitel'nyy institut imeni Chubarya, Zaporozh'ye i
Fiziko-mekhanicheskiy institut AN UkrSSR, L'vov. Submitted
Feb. 25, 1965.

VOLCHOK, I.Z.; LEVICHEVA, M.M.; MIKAYLA, M.I.; SINUSHAS, A.I.

Practices in the use of milled sandy portland cement in the
manufacture of asbestos cement products. Trudy NIIAsbesttse-
menta no.17:85-89 '63. (MIRA 17:10)

SOV/170-59-6-2/20

9)6)

AUTHOR:

FILE:

PERIODICAL:

ABSTRACT:

Volchok, L.Ya.

On the Errors of Devices due to Heat Exchange Between Measuring Wire and Instrument Holders

Inzhenerno-fizicheskiy zhurnal, 1959, Nr 6, PP 9-17 (USSR)

A piece of thin wire serves as a sensitive element in a number of measuring devices, such as resistance thermometer, thermo-anemometer, etc. The measuring wire is fixed in rigid massive holders whose temperature differs in general from that of the wire. Therefore heat exchange between them and the wire is a source of errors in temperature measurements. The present article treats this problem analytically as applied to three cases of heat exchange between the wire and surrounding medium: 1. The constant temperature of the medium, when the wire is not heated, 2. The constant temperature of the medium, when the wire is heated by electric current of constant intensity, and 3. The variable temperature of the medium, varying according to the harmonic law. A simplified assumption is made that temperature is distributed uniformly throughout the cross

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SOV/170-59-6-2/20

On the Errors of Devices due to Heat Exchange Between Measuring Wire and Instrument Holders

section of the thin wire. In the first case, which is applicable to resistance thermometer, the error due to heat exchange between the measuring wire and holders is expressed by Formula 7 b, which shows that the magnitude of the error is a function of the ratio of temperature of the holders to that of the medium and a dimensionless quantity expressed by Formula 8. In the second case, which is applicable to a thermo-anemometer, the error increases proportionally to the temperature to which the measuring device is heated, and therefore is n times as great as in the resistance thermometer, the meaning of n being given by Formula 12. In the third case, when the temperature of the medium changes periodically, the error is smaller than for a constant temperature, which is seen from the analysis of equation 16. However, since the difference is small, the necessary length of the measuring wire can be determined by formulae derived for the case of constant temperature. In conclusion, the author analyzes the problem of validity of the simplified assumption mentioned above. He finds that the uniformity of temperature distribution over the section of wire depends on the Bio criterion (Figure 3), when the temperature of the medium is constant, and on the

Card 2/3

On the Errors of Devices due to Heat Exchange Between Measuring Wire and Instrument
Holders

SOV/170-59-6-2/20

Predvoditelev criterion (Figure 4), when the temperature of the medium
varies periodically.

There are 4 graphs and 8 references, 7 of which are Soviet and 1
German.

ASSOCIATION: Belorusskiy politekhnicheskiy institut (Belorussian Polytechnical
Institute), Minsk.

Card 3/3

SHUL'TE, Yu.A., doktor tekhn. nauk; VOLCHOK, I.P., inzh.

Effect of calcium on the properties of medium-carbon steel.
Mashinostroenie no.2:56-58 Mr-Apr '65. (MIRA 18:6)

LUNEV, V.V., inzh.; BERKUN, M.N., inzh.; VOLCHCK, I.P., inzh.; UMANSKIY, M.A.,
inzh.

Effect of heat treatment on the cold strength of cast medium-
carbon steel. Mashinostroenie no. 6:71-72 N-D '64
(MIRA 18:2)

S/123/61/000/003/023/023
A004/A104

26.2/90

AUTHOR: Volchok, L. Ya.

TITLE: Measuring temperature variations in pulsating gas flows

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 3, 1961, 58, abstract
3I394 ("Sb. nauchn. tr. Belorussk. politekhn. in-t", 1959, no. 64,
141-175)

TEXT: The author reports on investigation results devoted to the improvement of the methods and development of devices using resistance thermometers intended for temperature measurements in the flow of engine exhaust gases. This work was carried out by the Tsentral'nyy nauchno-issledovatel'skiy dizel'nyy institut (Central Scientific Diesel Research Institute) and the Belorusskiy politekhnicheskii institut (Belorussian Polytechnic Institute). A description is given of the design of the components of the resistance thermometer, consisting of the pickup, electric measuring circuit with a-c resistance bridge and calibrating device. The investigations proved that resistance thermometers can be considered to be the most suitable devices for temperature measurements in exhaust gas flows. At the same diameter of the measuring wire, resistance

Card 1/2

Measuring temperature variations ...

S/123/61/000/003/023/023
A004/A104

thermometers in comparison with thermocouples possess a higher mechanical strength and a lower thermal inertia, while it is easier to amplify the measuring currents of resistance thermometers. There are 17 figures and 7 references.

B. Zemel'man

[Abstractor's note: Complete translation]

Card 2/2

RUMANIA/Microbiology - Antibiosis and Symbiosis.
Antibiotics.

F-2

Abs Jour: Ref Zhur - Biol., No 18, 1958, 81428

Author : Cahane, D., Volcinski, L.

Inst : -

Title : A Study of Bacteriostatic Activity of Bacteria
of the Bacillus Genus.

Orig Pub: An. stiint. Univ. Iasi, 1956, sec. 2, 2, No. 2,
65-71

Abstract: Upon prolonged cultivation (up to 15-20 days)
on a solid nutrient medium, 45 of 50 studied
strains of representative bacillus genres
displayed an antagonistic activity toward
grampositive as well as gramnegative bacteria.
Substances inhibiting growth of grampositive
bacteria sometimes appeared in the nutrient

Card 1/2

VOLCHOK, L.

P'ezoelektricheskie indikatory dlia dvigatelei vnutrennego sgoraniia.
Moskva, Mashgiz, 1945. 97, (1) p. illus.

Bibliography: p. 96-(98)

Piezoelectric indicators for internal combustion engines.

DLC: TJ759.V6

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library
of Congress, 1953.

VOLCHOK, L.

Author: Volchok, L.

Title: Piezoelectric indicators for internal combustion engines. (P'ezoelektricheskie indikatorы dlia dvigatelei vnutrennego sgoraniia.) 97 p.

City: Moscow

Publisher:

Substitutions: The Gov. Sci-Tech. Pub. Inst. for Machine Construction Lit.

Date: 1945

Available: Library of Congress

Source: Monthly List of Russian Accessions, Vol. 4, No. 4, July 1951

VOLCHOK, I.Ya.

Measuring varying temperature in pulsating gas flows. Sber.
nauch.trud.Bel.politekh.inst. no.64:141-175 '59. (MIRA 13:5)
(Thermometry) (Automobile exhaust gas)

VOLCHOKOVA

VOLCHOK, L. Ya.

PHASE X TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 751 - X

Call No.: TJ789.V6

BOOK

Author: VOLCHOK, L. Ya

Full Title: METHODS OF MEASUREMENT IN INTERNAL COMBUSTION ENGINES

Transliterated Title: Metody izmereniy v dvigatelyakh vnutrennego sgoraniya

PUBLISHING DATA

Originating Agency: None

Publishing House: State Publishing House of the Machine Building Literature

Date: 1955

No. pp.: 272

No. of copies: 8,000

Editorial Staff: None

PURPOSE AND EVALUATION: This book is destined for engineering, technical and scientific workers in industry and at scientific research institutes. The book is interesting because it describes a large number of instruments of various types and gives a critical analysis of their work and errors. In some instances, the author stresses the novelty of the instruments mentioned: electro-pneumatic indicator M.A.I. (Moscow Aviation Institute) (fig. 66), gas analyzer V.T.G. (All Union Thermal Institute) (fig. 132).

1/6

Metody izmereniy v dvigatelyakh vnutrennego sgoraniya AID 751 - X

TEXT DATA

Coverage: Measuring methods and instruments in use to obtain thermal data on internal combustion engines are described in this book. In the text a number of instruments are identified by their trade marks or by the name of their designer and their diagrams are given.

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	7. Electric braking devices	
	8. Comparative characteristics of braking devices	
	9. Torsion dynamometers of the average torque	
	10. Measurers of changeable torques and of torsional deformations	

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Metody izmereniy v dvigatelyakh vnutrennego sgoraniya AID 751 - X

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53-82

Ch. III Measurement of Angular Speed

11. Means of angular speed measurement
12. Speed counters and clock tachometers
13. Centrifugal tachometers
14. Induction (magnetic) tachometers
15. Electric tachometers
16. Stroboscopic tachometers
17. Electrical impulse (frequency) tachometers
18. Electrical speed counters
19. Sender-generators of impulse tachometers and speed counters
20. Tachometric installations for checking tachometers

Ch. IV Pressure Measurements

21. Measurement of changing angular speed
22. Occasions for pressure measurement in internal combustion engines
23. Mechanical indicators
24. Basic properties of electrical indicators

83-148

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Metody izmereniy v dvigatelyakh vnutrennego sgoraniya AID 751 - X

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	25. Piezoelectric indicators	
	26. Indicators based on ohmic resistance	
	27. Capacity indicators	
	28. Induction (electromagnetic) indicators	
	29. Inductive indicators	
	30. Stroboscopic indicators (point)	
	31. Indicators of maximum pressure	
	32. Indicators of average pressure	
	33. Measurement of the intensity of detonations and of the roughness of engine performance	
	34. Specific case of measurement of changeable pressures	
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Metody izmereniy v dvigatelyakh vnutrennego sgoraniya AID 751 - X

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- 39. Thermoelectric instruments
- 40. Resistance thermometers
- 41. Measurement of the temperature of fluids
- 42. Measurement of temperature in gas flows
- 43. Measurement of changing temperature in pulsating gas currents
- 44. Measurement of the temperature of flames in a cylinder of an internal combustion engine
- 45. Measurement of temperature of engine components
- Ch. VI Measurement of the Consumption of Liquids and Gases 203-224
 - 46. Measurement of the consumption and flow
 - 47. Measurement of the consumption of gases in stable flow
 - 48. Measurement of the consumption of gases in pulsating flow

5/6

Metody izmereniy v dvigatelyakh vnutrennego sgoraniya AID 751 - X

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Bibliography	265-269
No. of References: Total 120, Russian 81, 1934-1923, other 39, 1936-1952	
Facilities: All-Union Thermal Institute (VTI), Moscow Aviation Institute (MAI).	

VOLCHOK, Lazar' YAKovlevich; KOKIN, G.M., prof., retsenzent;
ROZHANSKIY, V.A., dotsent, retsenzent; NEKHAY, V.T., red.;
DUBOVNIK, A.P., tekhn. red.

[Feed of motor-vehicle and tractor engines] Pitaniye avtomobil'nykh i traktornykh dvigatelei. Minsk, Izd-vo MVSS i PO BSSR. Pt.1. [Feed of carburetor engines] Pitaniye karbiuratorsnykh dvigatelei. 1962. 160 p. (MIRA 15:11)
(Motor vehicles--Fuel systems)
(Tractors--Fuel systems)

VOLCHOK, L.Ya., kand.tekhn.nauk

Thermal inertia of resistance thermometers and hot-wire anemometers,
Izv.vys.ucheb.zav.; energ. no.6:90-99 Je '58. (MIRA 11:9)

1.Beloruskiy politekhnicheskiy institut.
(Thermometers) (Anemometer)

VOLCHOK, P., arkhitektor; ROZENTUL, A., inzh.

Large-panel houses to be built in villages. Zhil.stroi.
no.9:11-14 '59. (MIRA 13:1)
(Concrete slabs) (Architecture, Domestic)

VOICHKOV, P.M.; RYKOV, V.D.; OLENDAREV, N.S.

Reinforced concrete blocks for lining vertical mine shafts. Gor. zhur.
no. 4:48 Ap '58. (MIRA 11:4)
(Concrete blocks--Patents)

VOLCHOK, P.S.

SERGEYEV, I.N., inzhener; KHVEDELIDZE, G.R., inzhener; ROZENTUL, A.S.,
inzhener; ALEKSANDRI, L.; VOLCHOK, P.S., arkhitektor; PETUNIN,
N.V., arkhitektor; MIKHAYLOV, V.V., professor

Precast rafter construction for large-panel apartment houses.
Rats. i izobr. predl. v stroi. no. 101:28-29 '55.
(Roofs) (MLRA 8:10)

ВОЛЧОК, С. И.

PA 43/49T76

USSR/Medicine - Meninges, Tuberculosis Nov/Dec 48
Medicine - Streptomycin, Effects

"Immediate Results in Streptomycin Treatment of
Tubercular Meningitis in Children," Prof S. I.
Volchok, A. E. Pevzner, S. M. Shalyt, Inst of
Physiol, Acad Sci USSR; Chair of Children's
Tuberculosis, Leningrad Pediatric Med Inst, 9½ pp

"Vop Ped i Okhran Mater i Det" No 6

Presents results of observations on 28 children.
Concludes that streptomycin administered by L. S.
Shtern's method has therapeutic effect on tubercu-
lar meningitis, bringing about in most cases a
transition from acute to subacute and chronic
states, and in some cases leading to clinical
recovery.

43/49T76

VOLCHOK S. I., MAKOVSKAYA G. G., PEUSNER A. E. AND SHALYT S. M. Observations on the efficacy of streptomycin treatment of tuberculous meningitis in children Problemi Tuberkuleza, Moscow 1949, 6 (45-47).

One-hundred and eighty-five children were treated (occipital injections). Sixty were followed up after 6-21 months (39 after 11-21 months), 17 of them died: 8 in the 7th-8th months, 9 in the 12th month and 1, 18 months after treatment. Twenty-four are clinically well. 18 have become chronic. The better results are seen in children of school age. Treatment, begun before the 5th day of the disease gave the best results. The pulmonary process is not influenced much by the local (occipital) treatment and intramuscular injection have to be added. Exacerbations were seen in 16 out of 43 children, and relapses in 2. Late palsies were also observed. From 1 to 6 courses of streptomycin had been required in the 24 children who were definitely well after treatment. The calcium salt of streptomycin was very well tolerated for occipital treatment. Chronic cases numbered 35 (58%). Seventeen died and half of the others had a bad prognosis. Early diagnosis and early treatment are to be aimed at. Intervals between the first courses should not exceed 10 days (each course is 24-36 injections). Proceed immediately to a new course when the protein or cell content of the CSF rises during intervals, or clinical symptoms become worse, or tubercle bacilli are found in the CSF. In no case, however favourable, should one give less than 3 courses, and the CSF should be examined each 8-10 day. A sanatorium treatment of 1 year should be instituted after successful streptomycin treatment.

Vander Molen - Terwolde (XX, 7,8,15)

S0: Neurology & Psychiatry Section VIII Vol 3 No 7-12

^C
VOLCHOK S.I.

VOLCHOK, S.I.

Further observations of the effect of streptomycin in tuberculous meningitis in children Vop. Pediat, 1950, 18/1 (33-38) Tables 1 From 1.4. 1949, 185 children showing some degree of favourable response to streptomycin treatment were kept under observation for periods of 2-21 months; 60 patients with observation periods of at least 6 months were selected for judgment of longterm results. Of these 24 showed clinical recovery and 19 a chronic course, while 17 (28%) died. Of those whose treatment was started before the 5th day of illness, 11% died; with commencement after the 8th day the mortality was 33%. The interval between 1st and 2nd periods of treatment must not exceed 10 days. Clinically cured patients must be kept in a sanatorium for at least another year. Salamun-Koper (XX, 7,8, 15)

SO: Neurology & Psychiatry July-Dec. 1951 4,2

VOLCHOK, S.I.

Para-aminosalicylic acid in therapy of tuberculosis in children; preliminary report. Vopr. pediat. 19 no.2:9-12 1951. (CIAM 20:8)

1. Docent. 2. Of the Clinic of Tuberculosis in Children (Head—Docent S.I. Volchok), Leningrad State Pediatric Medical Institute (Director—Prof. H.T. Shntova).

VOLCHOK, S.I.;BUYANOVA, M.V.;PEVZNER, A.Ye.;SHALYT, S.M.

Problem of streptomycin therapy of tuberculous meningitis in children. Vopr. pediat. 20 no.4:27-28 July-Aug 1952. (GLML 23:2)

1. Docent for Volchok. 2. Of the First Clinic for Tuberculosis in Children (Head -- Docent. S. I. Volchok), Leningrad State Pediatric Medical Institute (Director -- Prof. N. T. Shutova) and of the Division for Children Sick with Tubercular Meningitis (Head -- M. V. Buyanova) of Hospital imeni K. A. Raukhfus (Head Physician -- E. M. Abkin).

VOLCHOK, V.I., inzh.; PARSHCHIK, S.A., kand. tekhn. nauk; POTENBERG, V.Ye.,
inzh.

Building and designing a compressor for raising the pressure of
compressed air at the face. Trudy VNIIONSHSa no.15:135-149 '64.
(MIRA 18:2)

SOV/118-58-2-9/19

AUTHORS: Volchok, V.I., Novikov, P.A., Engineers
~~Support Mounters for the Installation of Prefabricated Reinforced Concrete Supports in Horizontal Mining Workings~~

TITLE: Support Mounters for the Installation of Prefabricated Reinforced Concrete Supports in Horizontal Mining Workings (Krepeukladchiki dlya vozvedeniya sbornoy zhelezobetonnoy krepi v gorizonta'l'nykh gornykh vyrabotkakh)

PERIODICAL: Mekhanizatsiya trudoy&mkikh i tyazh&lykh rabot, 1958, Nr 2, pp 25-27 (USSR)

ABSTRACT: Different types of support mounters for mechanizing the installation of prefabricated reinforced concrete supports in horizontal mining workings were devised by the Vsesoyuznyy nauchno-issledovatel'skiy institut organizatsii i mekhanizatsii shakhtnogo stroitel'stva (the All-Union Scientific-Research Institute of Organization and Mechanization of Mine Building - VNIIONShS). These mounters will cut down labor costs and mechanize the installation of girders and "URP" slabs used as supports in mine galleries. There are adjustable, rolling, suspended, bicycle-type (velosipednyy) and gantry-type mounters. The adjustable type is designed mainly for the mechanized lifting and installing of girders in one track

Card 1/3

SOV/118-56-2-9/19

Support Mounters for the Installation of Prefabricated Reinforced Concrete Supports in Horizontal Mining Workings

galleries. It consists of a metallic frame supported by two metallic props, each equipped with a winch. The girder is lifted by the two winches and guided into place. These erectors were tested in the "Krasnopol'ye-Glubokaya" and "Belorechenskaya" mines (the Voroshilovgrad Oblast') and found satisfactory for the simplicity of its construction and its efficiency. The more complicated rolling mounter is designed for the erection of supporting walls and girders, but as it obstructs the passage of trolleys, it is recommended for use in mine chambers. It was tested at the Saranskaya Mine Nr 120 of the Karaganda basin. The suspended mounters, constructed at the Novochoerkasskiy zavod imeni Nikol'skogo (the Novochoerkassk Plant imeni Nikol'skiy) and tested at the "Cherkasskaya-Severnaya" Nr 1 Mine (Voroshilovgrad Oblast'), is designed to install wall supports and girders in one-track galleries without obstructing the passage of trolleys. The bicycle-type (velosipednyy) mounter, tested at the "Vetka-Glubokaya" Mine, is also designed for one-track galleries. The portal support erector, tested at the same mine, is de-

Card 2/3

SOV/118-58-2-9/19

Support Mounters for the Installation of Prefabricated Reinforced Concrete Supports in Horizontal Mining Workings

signed for two-track galleries and can install larger types of reinforced concrete slabs. Detailed descriptions of all these types are given. No final decision on the serial production of any of these types has yet been reached. There are 5 photos.

1. Mining engineering 2. Underground structures 3. Reinforced concrete—Applications

Card 3/3

VOLCHOK, V.I., inzh.; MIRONOV, G.S., inzh.

Mechanizing the setting up of sectional reinforced concrete supports
in level mine workings. Krepl. gor. vyr.ugol'. shakht no. 1:90-106
'57. (MIRA 11:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut organizatsii i
mekhanizatsii shakhtnogo stroitel'stva.

(Mine timbering--Equipment and supplies)

(Reinforced concrete construction)

Volchok, V.I.
VOLCHOK, V.I., inzh.

Industrial testing of gantry equipment for setting mine supports
proposed by the All-Union Scientific Research Institute for the
Organization and Mechanization of Mine Building. Shakht.stroi.
no.9:19-20 S '57. (MIRA 10:10)
(Mine timbering--Equipment and supplies)

SUKHININ, P.L., prof.; RUSANOV, S.A., prof.; GULYAYEV, G.V., doktor;
BOLDINSKIY, I.I., doktor; VILYAVIN, G.D., prof.; ZHOROV, I.S.,
prof.; LIPSKIY, doktor; GOL'DBERG, F.I., doktor; ZHOROV, I.S., prof.;
VOICHOK, Ye.V., doktor; MARTYNOV, A.T., doktor; GROZDOV, D.M., prof.;
KOTOV, I.A., doktor; SKATIN, L.I., doktor; PIKOVSKIY D.L., doktor,
dotsent; SMIRNOVA, Ye.S., doktor; SMOL'YANNIKOV, A.V., prof.;
UKHANOVA, N.V., doktor; PETROV, B.A., prof.

Discussions at the session. Trudy Inst. im. N.V. Sklif. 9:
278-303 '63. (MIRA 18:6)

1. I gorodskaya bol'nitsa imeni Lenina, Saratov (for Skatin).
2. Kafedra gospi'tal'noy khirurgii lechebnogo fakul'teta
Gor'kovskogo meditsinskogo instituta (for Pikovskiy).
3. Gosudarstvennyy onkologicheskiy institut imeni Gertsena,
Moskva (for Smirnova).

USSR/Cultivated Plants. Grains.

Abs Jour: Ref Zhur-Biol., No 5, 1958, 20242.

Author : Z.F. Volchkova

Inst : Not given

Title : The Large Scale Application of Phosphorus Bacterin for Winter Wheat in the Kolkhozes of Rostovskaya Oblast'.
(Massovoye primeneniye fosforobakterin pod ozimuyu pshenitsy v kolkhozakh Rostovskoy oblasti).

Orig Pub: Udobreniye i urozhay, 1956, No 7, 24-27.

Abstract: In production tests conducted from 1946 - 1954 at the Rostovskaya Selection Station and in the kolkhozes of Rostovskaya Oblast', the use of phosphorus bacterin increased the winter wheat yield by 1.0-2.5 centners per hectare (by 5 to 15%). The efficiency of phosphorus bacterin approximates that of granulated superphos-

Card : 1/2

USSR/Cultivated Plants. Grains.

Abs Jour: Ref Zhur-Biol., No 5, 1958, 20242.

phate, introduced into the rows, when sowing, in doses
of 6-10 kilograms of P_2O_5 per single hectare.

Card : 2/2

KULIKOV, Aleksandr Nikolayevich, inzh.; PISANNIKOV, G.P., inzh.;
CHIRKOV, S.L., retsenzents; VOLCHONOK, I.I., red.; TYUKOVIN,
I.N., red.izd-va; RIDNAYA, I.V., tekhn. red.

[Safety measures in the operation of marine power plants;
manual for inland navigation crews] Tekhnika bezopasnosti pri
ekspluatatsii sudovykh silovykh ustanovok; posobie dlia pla-
vailushchego sostava sudov rechnogo flota. Izd.2., perer. i
dop. Moskva, Izd-vo "Rechnoi transport," 1962. 163 p.

(MIRA 16:2)

(Marine engineering—Safety measures)

VOLCHONOK, I.

New system of bonus awards to the managerial, engineering and technical personnel of the river fleet. Rech.transp. 19 no.1: 16-17 Ja '60. (MIRA 13:5)

1. Zamestitel' nachal'nika Otdela truda i zarplaty Ministerstva rechnogo flota.

(Inland water transportation--Employees)

(Bonus system)

VOLCHONOK, I.

In the front lines of the ~~seven-year plan~~, ~~Rech. transp.~~ 20....
no.10:11-12 0 '61. (MIRA 14:9)

1. Zamestitel' nachal'nika Otdela organizatsii truda i
zarabotnoy platy Ministerstva rechnogo flota.
(Inland water transportation--Employees)

ALEKSEYEV, Georgiy Yevgen'yevich; VOLCHONOK, Ioir Izrail'yevich;
SAMOKHODKIN, I.M., red.; LOBANOV, Ye.M., red. izd-va;
RIDNAYA, I.V., tekhn. red.

[Wages in inland water transportation for members of the crew
and operational enterprises] Oplata truda na rechnom transporte
rabotnikov plavaiushchego sostava i ekspluatatsionnykh pred-
priatii. Moskva, Izd-vo "Rechnoi transport," 1961. 172 p.
(MIRA 15:1)

(Wages--Inland water transportation)

KULIKOV, Aleksandr Nikolayevich; YEL'TSOV, S.P., retsenzent; VOLCHONOK, I.I., red.; VINOGRADOVA, N.M., red.izd-va; YERMAKOVA, T.T., tekhn.red.

[Safety measures in the operation of marine power plants; manual for engine room crews on ships of the Ministry of the R.S.F.S.R. River Fleet] Tekhnika bezopasnosti pri ekspluatatsii sudovykh silovykh ustanovok; posobie dlia mashinnykh komand sudov Ministerstva rechnogo flota RSFSR. Moskva, Izd-vo "Rechnoi transport," 1960. 137 p. (MIRA 13:5)

(Electricity on ships--Safety measures)

(Marine engineering--Safety measures)

VOLCIC, Ivan

Products of the Steam Boiler Plants of Zagreb. Zavarivanje
7 no. 1: 20-21 Ja '64.

VOLCIK, Jaroslav, inz.

Measurement and control station. Zpravodaj VZLU no.5:3-9 '62.

L 16580-63

EWI(d)/BDS AFFTC/ASD/APGC Pg-4/Pk-4/Pl-4/Po-4/Pq-4

Z/059/62/000/005/001/006

AUTHOR: Volcik, Jaroslav, Engineer

TITLE: A measuring and control station

SOURCE: Letnany, Vyzkumny a Zkusebni Letecky Ustav. Zpravodaj VZLU no. 5, 1962, 3-9

TEXT: The article describes a measuring and control station¹⁰ located aboard a transport aeroplane. It mechanizes some mental operations by means of magnetic and electromechanical instruments. Electronic instruments are not used as they are considered unreliable. Main features of the station are described, and mathematical equations given. Previously available aircraft instruments are compared to the new station, and the mathematical relations between flight parameters are discussed. The measuring and derivation of the following parameters are given: static pressure, dynamic pressure, indicated air speed, actual speed, Mach number, static temperature, dynamic temperature, and altitude above sea level. Pressure and temperature pick-ups, electropneumatic and electromechanical transmission links, transmitters, correcting devices and devices for the derivation of other parameters from the ones measured are discussed. Instruments for

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A measuring and control station...

independent measurements, recording possibilities, transmission of impulses and deviations in excess of those permissible are discussed. A path indicator based on derivations from actual speed is presented. The station is designed in full compliance with automation requirements, the minimum physical size of the instruments, sectional building principles and signal standardization. An evaluation of the physical principles of the station and of its structural elements are given. Orig. art. has 6 figures, 37 equations, 3 references.

Card 2/2

VOLCHINSKI, A.; DOBRESCU, C.

On the presence of the fungus Verticillium albo-atrum Rke. et Earth. in some new plant hosts in Rumania. p. 115.

ANALELE STIINTIFICE. SECTIUNEA II: STIINTE NATURALE. Iasi. Rumania.
Vol. 5, no. 1, 1959.

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January 1960.

Uncl.

VOL 11/1 Country : ROMANIA
Category : Microbiology - General Microbiology
Abs. Jour : Ref Zhur - Biol., No.19, 1958, 85892
Author : Cahane, D.; Volcinschi, D.
Institut. : Iasi University
Title : A New Species of Pigment-Forming Cocci
Orig Pub. : An. Stiint. Univ. Iasi, 1956, Sec.2, Vol.2, No.2,
61-63
Abstract : no abstract

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VOLOJAK, Viktor. potpukovnik dr.

Function and role of director of military hospital. Voj. san.
pregl., Beogr. 11 no.11-12:668-672 Nov-Dec 54.

1. Oblasna bolnica u Zagrebu.

(HOSPITALS

military, administrator's duties)

(HOSPITAL ADMINISTRATION

administrator's duties in military hosp.)

VOLECKO, J.

Contraception among rural women. *Cesk.gyn.*25[39] no.10:737-738
D '60.

1. Gyn.por.klinika LFU P.J. Safarika v Kosiciach, prednosta prof.
MUDr. Th. Schwarz.
(CONTRACEPTION statist)

MITRAKOVIC, B.; DESPOTOVIC, S.; MILJANIC, P.; SKENDZIC, D.; VOLCKOV, I.

Activities of the Nikola Tesla Electrotechnical Institute
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VOLCKOV, I.

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VOLCKOV, I. Modern construction of largetransformers. p. 434.

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VOLCKOV, I.

VOLCKOV, I. The effect of magnetic current on determining transformer losses
in short circuit tests. p. 531.

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Beograd, Yugoslavia

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NATAPOV, B.S.; OL'SHANETSKIY, V.Ye.; VASILENKO, G.I.; VOLGSHCHUK, M.D.

Mechanism of the formation of anomalous and normal structures in steel. Izv. vys. ucheb. zav.; chern. met. 6 no.4:115-123 '63.
(MIRA 16:5)

1. Zaporozhskiy mashinostroitel'nyy institut.
(Steel—Metallography) (Phase rule and equilibrium)